

Amendments to the Specification:

Please replace Paragraph [0007] as filed with the following replacement paragraph:

[0007] The present invention utilizes a search filter to solve the problems described above. "Search filter" is the method of searching words or documents proposed by Severance and Lohman in 1976. The principle of the method is that: selecting a Hash function, such as MD5 first; taking a value to be searched, such as "m", as the "key" of the Hash function, such as $f(m)$ to perform a Hash operation and obtain a proper data structure arrangement; and using the data structure to select the values to be checked. When a key is selected, it is not sure ~~that~~ if the key can be found ~~find~~ in a search set according to the property of search filter, because the Hash space that the search filter uses is limited. On the other hand, when a key selected key does not belong to a search set, the search filter ~~determines~~ assures that the key does not belong to the search set.

Please replace Paragraph [0018] as filed with the following replacement paragraph:

[0018] (a) ~~Suppose~~ Supposing that the firewall 20 in the Fig.1 has N firewall rules $\{1 \leq i \leq N \mid r_i\}$, wherein each rule consists of five items ~~items~~: {source network rinets, destination network rinetd, source port riports, destination port riportd, protocol rip}. Each network described in the above rules includes the IP addresses that users ~~want~~ intend to filter and then remove.

Please replace Paragraph [0024] as filed with the following replacement paragraph:

[0024] Like the filtering procedure of the source network rinets described before, the filtering procedures of the destination network rinetd for the same firewall rule r_i are ~~to repeat~~ repeating the procedures S400 to S450 ~~S250~~: by first converting the

destination network rinetd into the binary code (including bit values and address), then setting W addresses bw ($0 \leq bw \leq L-1$, $0 \leq w \leq w-1$) having bit value "1", destination port riportd and protocol rip as the keys of the hash function, and substituting introducing the keys into K specific hash functions hi (such as hi (bw, riportd, rip)) for hash calculation in order to get K*M values kj between 0 to and (C*K*L)-1. These kj include the relative addresses pointing to a hash space Hd in the destination network rinetd. The set of the relative addresses pointing to a hash space Hd can express the characteristic value of the source network rinets in the hash space Hd. Notice that each hash space uses the same C, K and L, so the size of the hash space Hd mentioned above equals the size that of the hash space Hs, and also equals sizes as well as each of other hash spaces.

Please replace Paragraph [0031] as filed with the following replacement paragraph:

[0031] Firstly in the procedure S500 S550, the method receives a packet p to be checked is received. In the procedure S505, the method extracts a source IP pips is extracted from the packet. In the procedure S510, the method converts the source IP pips of the packet is converted into binary code. In the procedure S515 S505, the method searches a search for a set of M' relative addresses bm ($0 \leq bm' \leq L-1$, $01 \leq m \leq M-1$) which have bit values "1" from the code of the source IP pips is conducted. In the procedure S520, the method sets each address having a bit value "1", source port pports and protocol pp, pp are set as the keys of the hash function, and substitutes introduce the keys into K hash functions hi (such as hi (b"m, pports, pp)) for hash calculation in order to obtain K*M values kj between 0 to and (C*K*L)-1. These kj include the relative addresses pointing to a hash space H's in the source IP pips. As the described in the procedure S525, the setting of the relative addresses pointing to a hash space H's can present the characteristics of the source IP pips in the hash space H's.